

DAUPHIN WATER WORKS

(Dauphin Consolidated Water Supply Company)

Southeast Corner of Susquehanna and Canal Streets

at Stony Creek

Dauphin Vicinity

Dauphin County

Pennsylvania

HAER NO. PA-414

HAER  
PA  
22-DAUP.V,  
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY

National Park Service

Philadelphia Support Office

U.S. Custom House

200 Chestnut Street

Philadelphia, PA 19106

HAER  
PA  
22-DAUP.V  
1-

# HISTORIC AMERICAN ENGINEERING RECORD DAUPHIN WATER WORKS

(Dauphin Consolidated Water Supply Company) HAER No. PA-414

Location: Southeast corner of Susquehanna and Canal Streets at Stony Creek  
Dauphin Vicinity  
Dauphin County, Pennsylvania

UTM: 18.336110.4469710  
Quad: Harrisburg West, Penna., 1:24,000

Date of Construction: circa 1900

Engineer/Architect: Unknown

Present Owner: United Water Pennsylvania  
Harrisburg Operation  
4211 East Park Circle  
Harrisburg, PA 17111-0151

Present Use: Water Works

Significance: The Dauphin Water Works is the only extant water works in the county that was owned and operated by the Pennsylvania Railroad Company beginning in the early twentieth century. Architecturally, the pump house is a locally unusual example of a stone, Romanesque style industrial building. Most other similar facilities owned by the railroad at that time were constructed of either brick or wood. The Dauphin water works is also important locally in the history of technology and sanitary engineering. Built near a former grist mill, siting of the water works capitalized on the headwaters created by the dam upstream. By the 1920s, in response to the commercial and domestic demand for clean water, the Dauphin water works possessed a state-of-the art filtering system. Today, in the filter room, most of the equipment including hydraulic valves and hand-operated sluice gates remain intact examples of an early gravity filter purification system.

Project Information: A final Environmental Impact Statement (EIS) (1995) prepared for a proposed road improvement project found that the project would have adverse effects on the Dauphin Water Works. The proposed project would provide improvements to U.S. 22/322 and PA 225, located approximately seven miles northwest of the City of Harrisburg.

To mitigate the adverse effects, the State Historic Preservation Office stipulated documentation of the Dauphin Water Works. This documentation was undertaken to fulfill these stipulations.

Lauren C. Archibald  
McCormick, Taylor & Associates, Inc.  
Engineers and Planners  
Mellon Independence Center  
701 Market Street, Suite 6000  
Philadelphia, PA 19106  
(November 1996)

### Summary Description of Water Works and Setting

The Dauphin Water Works is located on Tax Parcel 23-11-16, at the southeast corner of Susquehanna and Canal Streets, at the eastern edge of the Borough of Dauphin. The lot forms a v-shape, with its easternmost boundary being Stony Creek. Structures associated with the Dauphin Water Works are on the east side of Susquehanna Street. They consist of a pump house, an adjacent garage/storage building, a small frame shed, and a water screen. In addition, the dam, reservoir, and intake system for the Water Works is situated circa 900 feet to the north of the pump house. Located upstream, the dam, reservoir, and intake system are separated from the actual pump house complex by Erie Street, a local east-west road, and U.S. 22/322, a divided highway. Several commercial and residential buildings are also located between the pump house complex and the dam. Although the dam was considered to be outside of the historic property boundary for the Dauphin Water Works, it is described and photographed for this recordation because it is a component of the Water Works system.

The configuration of streets and development immediately surrounding the Water Works is similar to how it was in the late nineteenth century. In the nineteenth century and early twentieth centuries, the Pennsylvania Canal ran along the current Conrail railroad bed. The railroad bed was constructed along, and sometimes on top of, the canal prism. These elevated Conrail tracks and a bridge are located about 200 feet to the south of the pump house. Across the street and to the east of the pump house is a nineteenth century frame dwelling, previously occupied by the Water Works foreman. The house is now vacant. Also, a large historic stone house known as the Innis Green House is situated on Susquehanna Street in the vicinity of the Water Works. To the north of the Water Works property is the U.S. 22/U.S. 322 roadway.

### Physical Description of Individual Components

Water is impounded in the reservoir at Stony Creek north of the pump house complex. The filtration process begins at the reservoir itself, where sediment and other particles settle out by gravity to the bottom of the reservoir. The intake system for the water is located along the west side of the dam. A series of vertical metal screens, installed in recent decades, filter out larger debris such as twigs and leaves. This partially filtered water is channeled into a concrete flume that runs underground for a distance of approximately 900 feet, from the intake area at the dam southward to the pump house.

**Dam:** A stone masonry dam is located approximately 900 feet north of the pump house on Stony Creek. The downstream face of the dam features stepped blocks, laid up on a 1:2 horizontal to vertical ratio. Retaining walls and wing walls are stone masonry. The spillway is three feet

below the top of the dam and is 190 feet in length. The spillway has a slightly rounded crest that is built with concrete coping blocks. Built in 1927, the current dam replaced the original timber dam. Water enters a concrete intake chamber at the western side of the dam by means of a penstock. At the intake chamber, steel rack bars that can be moved horizontally filter out large debris. An underwater pipe, controlled by a sluice gate, runs parallel to the dam. The steel components at the intake chamber were replaced in the late twentieth century and a steel walkway was added to provide access to the sluice gate controls. The dam and the intake system function, essentially, as they did when constructed in 1927.

Water Screens: From the dam intake area, water flows through an underground concrete flume down toward the pump house area to a second set of vertical metal screens. Located approximately 100 feet north of the pump house, the water screen's superstructure is constructed of steel beams and supports, set into a concrete slab. These double screens serve as a secondary filter to water that has flowed from the intake area at the dam. Screens may be elevated by a chain pulley attached to a small wheel on the steel superstructure for cleaning. While the bars for the screens are probably original, the actual screens are recent replacements that are welded to the steel frames. These water screens help to remove debris and other large solids from the water flowing to the pump house. Ordinarily, the screens are lifted and cleaned every three months.

Informants at the treatment plant state that there was always an above-ground system to lift the screens, but that the original was probably a block and tackle system. It is not known when these screens were originally installed, but they were probably put in after the dam was re-constructed in 1927.

Garage/Workshop/Locker Room: A single-story, rectangular garage, measuring circa 30 by 90 feet, sits just south of the water screens. Extending from the southwest corner of the garage is a shed-roof wing, forming an ell to the main structure. The entire building rests on a concrete block foundation, with a partial basement at the southern end.

The southern end of the garage/workshop/locker room is of frame construction, while the northern end is constructed of concrete block. The frame section is clad with horizontal boards and has a standing-seam metal roof. The southern end, which is concrete block, is sheathed in asphalt composition shingles. There are large, frame garage doors on the west facade, as well as three single, wood panel doors. The garage doors are the paired, sliding type, with wood panels on the lower half of the doors. The upper portion of the doors featured ribbon windows which have been replaced with plywood. The single door on the northernmost end of this west wall retains a pair of glass panes; the other two single doors, at the southern end of the building, have plywood replacements.

A brick interior-end chimney is present along the north facade. There are two small window openings on the north facade that have been sealed over. The south facade, which faces the pump

house, has two pairs of two over two, double-hung sash windows. A smaller, two over two window is located in the gable peak. A concrete block chimney rises from the southeast corner of the building. The floor of this building is poured concrete.

The interior of this building served many functions. The southern half of this building was used as a maintenance room, as well as an office for the maintenance supervisor. There is a wood work bench on the southwest wall, and built-in shelving on the north wall. The drill press and heating stove once located in this room, has been removed. A mid-twentieth century shelving unit with open bins is located just outside the work/repair room. Underneath this level is a concrete basement, which was used for storage. The shed-roof ell is a semi-subterranean area, built into the bank of Stony Creek. This area once housed a shower and a toilet, used by workers at the Water Works.

The northern and central portion of the garage building, including the concrete block portion, is a large open area that contains lumber, miscellaneous supplies, and items such as hoppers. The garage building has been enlarged since it was originally built. A tax assessment for the property states that the frame garage was constructed circa 1890. There was a garage built at this location by at least the early twentieth century; and an ell-shaped "garage" is shown across Susquehanna Street on a 1936 plan of the water works. The present building may have been moved from across the Susquehanna River to its present location, as shown on a 1948 Water Works plan.

Shed: A small detached frame shed with a gable roof is situated between the pump house and the garage. The front or western portion of the building, housing the generator, is covered with plywood. This portion of the building was added in the late twentieth century. There are modern double doors on the western wall, opening out onto a concrete pad. The rear weatherboard portion of the building has two, four-pane windows on each side, and a single-leaf paneled door is present on the western interior wall. The small room is vacant, except for a metal tank sitting along the north wall which does not appear to be in use.

The shed is situated at the northeast corner of the water intake structure. The eastern half of the building is cantilevered over the intake's concrete overflow chute, supported on concrete block piers. A 1948 plan shows that the small building was used for chemical storage.

Outside the frame shed, between the shed and the pump house, is a vertical turbine. The turbine was installed circa 1991.

Pump House: The one story pump house is built into the western bank of Stony Creek. The pump house is rectangular in plan with a parapet roof. A datestone or other marker had been placed in the center of the parapet, but this has been removed and re-filled with metal. Projecting slightly over the north and south facades are pent overhangs, sheathed in composition shingles.

The structure is constructed of rough-faced cut stone. The red-hued stone is laid in mortar with beaded joints. The north facade is three bays wide with double metal doors located in the center bay. These doors, with a single-pane transom above, are modern replacements. A single-leaf original wood panel door situated at the south end of this facade is used today as the principal entry door for the pump house. Nearest to the river is a metal replacement door that opens directly into the chlorine room.

The western wall is the primary facade of the pump house building. It has five bays, all with elliptical shaped lintels and/or hoods. At the southernmost end, there are three single, two over two, double-hung sash windows, a larger window area, and an entrance. This entrance is a wood and glass panel door with a two pane transom, as well as an elliptical shaped, three pane window above the door. The door is flanked by a single, two over two, double-hung sash window on each side. The large window area toward the north is currently filled in with cement, but has the same elliptical shape. Each bay has a relieving half-round stone arch. There is a brick interior-end chimney, located near the center of the building.

The south facade facing the railroad tracks, has three symmetrically placed window openings, all of which are currently boarded over. The versatile architectural style, known as Richardsonian Romanesque, was popular during the last quarter of the nineteenth century. The relieving half-round stone arches are typical of this architectural style. The noted American architect, Henry H. Richardson, is attributed with developing the style. Built at the turn of the century, the pump house building is a late adaptation of this style and is less ornate than other Richardsonian buildings. Although the style is coined as Romanesque, Richardson's particular trademarks were influenced by other exotic antecedents, notably the low-sprung arches of fifth-century Syria. The style was adaptable for private residences, as well as both large and small-scale public buildings such as, railroad stations, libraries, and civic buildings. The use of warmly-colored stones, including pink granite and brownish sandstones, were characteristic of this style.

The interior of the pump house has two main sections, the pump room and the filter room. The pump room contains two modern, low-lift or low-surface type pumps, switchboards, and other recent or otherwise replaced equipment. In the southeast corner of the pump room are spiral stairs leading down to the pipe gallery, an area which once served as the turbine wheel pit. Piping and valves in this lower chamber date from the 1960s. Against the south wall of the pump room is a free-standing, paneled wood closet dating from the 1940s and a steel air storage tank which is no longer used. A small chlorine storage room has been added in the northeast corner of the room.

The filter room contains the workings of the gravity filter system, including the sedimentation tank, the clear well, two filter beds, and an operating table. The entire filter system, which is no longer in use, is described in further detail below.

The western part of the filter room was converted to and used for an office. A dividing wall is glazed, with four large panes on each side and solid wood panels beneath. The wall has a central door and a single-light transom. The wall separates this office space from the filter room. The floor has two raised platforms on each side of the room. The platform on the north side still has a bookkeeper's/secretary's desk and chair, dating from the 1940s. A beaded wood closet rests against the south wall. The pump house's large windows on the front, west wall of the building emit ample light into this office area. No other lighting source was observed here; however, the filter room behind it features simple, pendant-shaped lamps on cords hanging from the ceiling.

### Water Purification System

No plans, documents, or other information was found showing the mechanics of the pumping system when it was built in 1903. It is clear, however, that the pump station utilized a turbine wheel, located in the northeast corner of the pump room. Since water was impounded upstream at the dam, the head of water created at this location was sufficient to drive the turbine water wheel at the pump house. Though not detailed, a 1906 general plan view shows that the pump station was built just south of the grist mill that stood here.

At the turbine wheel pit, water was conveyed via a concrete flume from the Stony Creek dam upstream, into an intake chamber outside the pumping station. Over flow would exit through the tail race into Stony Creek, located under the pumping room. The opening for the tail race is still extant at the Dauphin pumping station. A stone arched opening, it is designed in keeping with other stone arch details on doors and windows of the building.

The earliest available detailed renderings of the interior layout are from 1912, when the Water Works was upgraded. This 1912 "Plan of Proposed Improvements at Dauphin Station" shows that Leffel Turbines would be installed, and the wheel pit would be deepened and faced with concrete. The Dauphin pump house would utilize a mechanical gravity filter system. Equipment was to include a Deane Compound Duplex Pump, a Worthington Duplex Pump an air tank with Westinghouse Air Compressor, to be located adjacent to a Deane Pump. All walls and floors would be finished with concrete and steel I-beams were to be installed to reinforce the building.

An 1914 list of existing equipment at the Dauphin pump house indicates that the proposed equipment had been installed. Two pumps, each with a 500,000 gallon capacity, were driven by the turbine water wheels. The Leffel turbines had a modest 30 and 45 horse power, respectively. The pump house also had two other, larger capacity pumps, a Deane compound condensing pump with a 5,000,000 gallon capacity and a Worthington Duplex pump, with a 2,500,000 gallon capacity. The air tank and compressor had been installed. Two locomotive boilers, rated at 100 horse power each, were coal-fueled and would have provided the necessary steam to run these and other pumps at the plant, as well as heating for the building. For measuring the total water

supplied to a 24" line and a 12" "commercial" line, Venturi meters had been placed to the south of the pumping station. The filters and sedimentation tanks were apparently not in place yet.

A 1926 engineering drawing shows that new pumps had been installed in the pump room; there were two filters and a sedimentation tank in the southern part of the building. There were a total of four pumps, all the centrifugal type. The turbine wheel(s) drove two pumps, with higher capacities than before, with a 600,000 and 1,000,000 gallon capacity, respectively. One of the two motor driven pumps was upgraded to a 3,600,000 capacity; the other remained at a 5,000,000 gallons per day maximum.

In 1928, plans were proposed for the installation of a rapid filter system for the domestic water supply output of the plant. The following year, plans show the mechanical gravity filters in place at the pumping station. It included two concrete filter beds, a sedimentation basin and a clear well. Sixteen, four-way hydraulic valves could be controlled at the operating table between the two filters, and levers could open or close sluice gates underneath. If high pressure was insufficient, the valve system could be pumped up by hand, thus ensuring a manual back-up system. A rate-of-flow controller is situated near the hydraulic valves. Although no longer in use, this filtering system is essentially intact at the treatment plant today.

Portions of the rapid sand filters and chemical treatment component of the building were replaced in the 1950s, and in 1980, these chlorinators and the rapid sand filters were retired.

#### History:

The Water Works at Dauphin is currently owned by United Water Pennsylvania. Staff at United commonly refer to it as the Canal Street plant. For over half of this century, however, the water works was known as the Dauphin Consolidated Water Supply Company, and was owned by the Pennsylvania Railroad. This was one of many water companies owned by the Pennsylvania Railroad, but was the only railroad-owned company in the Dauphin County area.

Deed research indicates that this was part of a larger, 14-acre parcel acquired by Edwin P. Robinson from the estate of William J. Robinson in 1885 (Deed Book W-6:263). The property was listed as containing a "Grist Mill, Saw Mill, Blacksmith Shop and Wagon Shop". An 1890 map shows a Dauphin Flouring Mill in this location, with stone basement, with the name J. C. Jones, but the water works pumping station is not yet there. Ambrose B. Wagner bought the 14-acre property on March 19, 1901 (Deed Book Y-10:110), and sold it the next day, on March 20, 1901 to the Citizen's Water Company of Dauphin (Deed Book Y-10:113) for \$6,750.00. Ambrose B. Wagner was probably acting on behalf of the Citizen's Water Company since the tax assessment records show a direct transfer from E. P. Robinson to the Citizen's Water Company (Dauphin County Tax Assessment Office Microfilm Roll 189). The property that was transferred contained a dwelling house valued at \$1,000 and the mill building, which was not taxable.



Dauphin County tax records state that the pumping station was erected circa 1900. Interestingly, the plant was built just south (approximately 50 feet) of the above-mentioned grist mill. A secondary source indicates that the saw/grist mill was built circa 1790 and was burned "around the turn of the century" (Dauphin-Middle Paxton Community Ambulance Association 1976:27); however, the mill building is shown on a pipe line map from 1906 drawn by the Dauphin Consolidated Water Supply Company. The map also indicates that the Pennsylvania Canal was still in place to the south of the pumping station, running parallel to the Susquehanna River. At that time, the only railroad line near the pumping station was the Schuylkill and Susquehanna Branch of the Philadelphia and Reading Railroad, to the north and along Stony Creek.

This was an ideal location for a water plant, since a dam, and mill pond were already in place upstream. The mill race ran along present-day Susquehanna Street, and also supplied water power to the tannery located across Stony Creek in the nineteenth century. Furthermore, the Water Works could take advantage of the grist mill's raceways. The pump house was built at the edge of the mill's tailrace, which would serve as an intake area for the pump house. Situated high on the banks of Stony Creek, overflow from the pump house could be discharged directly into the creek, which flowed to the Susquehanna River a short distance to the south. Perhaps most importantly, headwaters originally garnered for turning water wheels at the other water-powered industries here, including the saw/gristmill and tannery were now used to turn the turbines at the Dauphin water works.

On January 7, 1901, the Borough of Dauphin granted the privilege to the Pennsylvania Railroad company executives to lay water pipes and to "supply the same with the necessary ... branches and stopcocks". A month later, the borough agreed to have fire hydrants erected in the town (Borough of Dauphin, Pennsylvania, Council Minutes 1901). Terms and costs for water use were not agreed on until later.

The Dauphin Consolidated Water Supply Company was formed on May 20, 1903, by the merger and consolidation of the Citizens Water Company of Middle Paxton Township, Citizens Water Company of Susquehanna Township, and the Citizens Water Company of Dauphin Borough. The first Directors Meeting for the Dauphin Consolidated Water Supply was held in Reading, Pennsylvania on July 7, 1903. That same evening the Directors met with stockholders to formally elect the board of directors and to adopt by-laws. By 1904, the water company had 2180 shares. Shares were issued as corporate bonds valued at \$500 each; interest was to accrue at five percent, payable on a semi-annual basis and would be due on July 1, 1924. By 1905, capital stock totaled \$110,000.

In pursuit of its "comprehensive plan", the Dauphin Consolidated Water Company had been discussing new acquisitions nearly as soon as it was formed. In 1905, the company appropriated water from Halifax Township in Dauphin County to enlarge the business and simultaneously increased the capital stock by selling an additional 17,800 shares, at \$50.00 each. In 1905, the

majority of capital stock issued by the Dauphin Consolidated Water Supply Company was purchased by the Pennsylvania Railroad Company. This allowed the company to buy out two other water companies, and on March 13, 1906, the Enola Water Company and the Progress Water Company were merged into the Dauphin Consolidated Water Supply Company. The company had two pumping stations, one at Dauphin, and the other at Enola, on the opposite side of the Susquehanna River. The largest consumer of the water from Stony Creek was the Pennsylvania Railroad, but on April 10, 1907, the railroad offered a proposal to rent water to the Borough of Dauphin. The company would rent water for domestic use and for the purpose of fire protection. Rent to the Borough, including 15 fire hydrants, would be \$150.00 per year. Occasionally, Borough council members disagreed on the water pricing schedules, requiring renegotiation with water company officials. The company had a highly saleable commodity. By 1910, the water company devised new rules, regulations, and itemization of yearly water rents. Rates were listed for private dwellings, hotels, restaurants, stables, bakeries, stores, offices, lodge rooms, drug stores, photograph galleries, barber shops, blacksmith shops, steam boilers, fountains and "building purposes."

After the turn of the century, the Pennsylvania Railroad began to aggressively acquire water companies. Acquisitions often involved multiple small water companies, like the Dauphin Consolidated Water Supply Company. Officials at the Pennsylvania Railroad had initiated a sweeping, company-wide plan to address the issue of "water supply construction work" to serve the miles of tracks throughout Pennsylvania, New Jersey, and elsewhere. Joseph T. Richards, the railroad's Chief Engineer of Maintenance of Way, wrote in 1907:

... The whole water scheme started with a telegram from Geo. W. Creighton, General Superintendent at Altoona to myself stating that freight trains were standing on the mountain for want of water. After hearing the situation that our railroad was in, as to the shortage of water, and the loss that our operating department was suffering, Mr. Cassatt, in his usual manner of quick and correct decision, stated emphatically that we must get the water .... [He decided that the [railroad must be equipped with water for its entire system; that we should make this search ... and report to him the quantity and quality of water within reach ... (Pennsylvania Railroad 1907:2)

Toward this end, the railroad appropriated \$6,000,000. The \$300,200 purchase of the Dauphin Consolidated Water Supply, even though it was not considered to be "one of the first years' items of work," was nevertheless charged against this appropriation. The need for carrying out the pipe-laying tasks for the railroad's grand water supply schemes may have seemed insurmountable, at least to the chief engineer, who was compelled to write a twelve-page letter regarding the problem to the railroad's vice-president. The engineer stated that at the end of the first year (presumably 1903), the Pennsylvania Railroad had put 4,000 "men in the field, bought pipe from all the mills in the eastern part of the United States, and the orders were not how many men we could get to lay pipe, but how many thousand men (Pennsylvania Railroad Company 1907:8)".

Although the primary initial goal was to supply water for the steam locomotives, the railroad also began to rent water to others, including the local Borough of Dauphin. The Pennsylvania Railroad's water companies' annual report for 1914 states:

Briefly summarized the Dauphin Consolidated Water Supply Company has authority from the State of Pennsylvania to supply water to persons, partnerships and corporations, in Middle Paxton Township, Borough of Dauphin, Susquehanna and East Pennsboro Townships, and to store, transport and supply water and water power for commercial and manufacturing purposes in the Township of Susquehanna.

Although water pumped at the Dauphin pumping station was fine for locomotives and numerous other uses, the State Health Department required that the "Company ... submit plans for additional treatment of the present supply or to obtain a supply from an uncontaminated source. The quality of the water from Stony Creek is satisfactory for the purpose of our largest consumer, the P. R. R., as that Company uses about 90 per cent." To satisfy the health department, the railroad presented a plan on November 21, 1914 to improve the domestic water supply by sedimentation. On consideration of the costs, the company decided that due to the "small quantity of water used in that service the cost of filtering this water appears to be too great to make it commercially practical" (Pennsylvania Railroad Company 1914:2).

During that year (1914), the railroad was still acquiring lands and water rights to increase water supplies for the railroads, and Dauphin Consolidated used about 90% of the water for the railroad itself. By the end of the first quarter of the twentieth century, the railroads were still requiring large supplies of water. According to a paper presented at the 1930 St. Louis Convention of the American Water Works Association, "[about one-third of the water used by the railroads in the United States is bought from the public supplies along the lines. The railroads have to use water from many sources, which makes the problem more difficult than if it was of uniform quality. Improving the quality of the water has materially increased the engine mileage on a number of railroads (Baylis 1930:231)."] Managed through the Office of the General Superintendent of Water Companies, the Pennsylvania Railroad then owned at least 16 water companies, and most of them were in Pennsylvania. A review of buildings and equipment at the other water companies indicates that unlike the pump house at Dauphin, most others were of either frame or brick construction.

Processes for treating raw water for commercial and domestic consumption developed over the first quarter of the twentieth century, partly in response to consumer demand for water that is not only clean, but "hygienically safe, that is tasteless and odorless, that will not destroy the distribution pipes in which it flows ...." (Baylis 1930:231). By 1929, the Dauphin pumping station had a state-of-the art filtering system. Besides the rapid-sand filters, a lead-lined steel mixing tank for coagulation was installed, as were chlorinators with platform scales for chemical treatment of the water supply. Untreated water entered a vertical bar rack or coarse screen that filtered large particles, traveled to a smaller screen, and by chemical coagulation, other solids

were trapped before the next step in the filtration process, where finer elements were removed in the settling basins. Continuing the filtering process, water flowed down from the filter bed to layers of sand and gravel underneath. Waste water and clean water issued from separate pipelines. By the late 1920s, such a series of operations were considered rudimentary in the water treatment process, that included preliminary sedimentation, chemical filtration (coagulation), gravity filtration, and finally, chlorination.

Information on file at the current owner of the Water Works showed that in 1918, the company's domestic distribution system, adjacent to the northern limits of the City of Harrisburg, was sold to the City. In 1922, the service area in Enola was sold to the Riverton Water Company. In 1939, the company sold 4,420 acres of land in Clarks Valley to the City of Harrisburg for use as a source of water supply for the City. In 1955, the Dauphin Consolidated Water Supply Company was acquired by General Water. From 1962 to 1971, the company acquired five additional water systems in the area (Gaw and Hildebrand 1985:8-9). On March 17, 1995, United Water acquired General Water by merger. United Water's Dauphin County regional office is in Harrisburg, and the company's head office is in Harrington Park, New Jersey.

Pumps at the Dauphin Water Works continue to be used today, but water is no longer treated there. After a new filter plant was built at North Sixth Street in Harrisburg in the early 1960s, the filter system at the Dauphin Water Works was discontinued. The Dauphin Water Works is rated as a Class C, Type 1 water treatment plant, and has a one-million gallon-per-day capacity.

## **Sources of Information**

### **Engineering Plans**

Partial list of Engineering Plans and Drawings on Microfiche at United Water Pennsylvania, Harrisburg, Pennsylvania. Location of original drawings unknown.

#### **Dam:**

Proposed Masonry Dam and Intake on Stony Creek Plan, 1926

#### **Dauphin Water Works:**

Mechanical Gravity Filters at Dauphin Pump Station, 1929

Proposed Rapid Filters at Dauphin Pump Station, 1928

Dauphin Filters Details of Piping Filters, 1929

Coagulating Facilities Domestic Filters at Dauphin, 1929

General Arrangement at Dauphin Pumping Station, 1927

Heating and Piping Plan for Proposed Improvements at Dauphin Pumping Station, 1927

Plan of Piping for Proposed Improvements at Dauphin Pumping Station, 1926

Foundation Plan for Proposed Improvements at Dauphin Pumping Station, 1926

Plan of Proposed Improvements at Dauphin Station General Superintendents Office, 1912

Plan and Profile of Public Road, 1926

Masonry Dam and Intake on Stony Creek for Dauphin Pumping Station, 1926

Concrete Intake Flume Connection and Metal Work for Dauphin Pumping Station, 1926

Domestic Filters Layout for Sluice Gates and Hydraulic Valves, 1929

Topography at Mouth of Stony Creek, 1936

Proposed Valve Connection to City of Harrisburg, 1940

Proposed Relocation of Concrete Pipe to Accommodate New Highway, 1941

Water Supply Plans (Various) Showing Layouts, 1948

**Interviews, October 1996**

Cary Gaw, Senior Engineer, United Water Pennsylvania. Place of interview: United Water Pennsylvania, Harrisburg Office, Harrisburg, Pennsylvania.

Robert Heineman, Chief Plant Operator, United Water Pennsylvania. Place of interview: United Water Pennsylvania, Sixth Street Filter Plant, Harrisburg, Pennsylvania.

James Kelly, former supervisor at Dauphin Water Works. Telephone interview.

Ken Komiske, Director, New Business Department, United Water Pennsylvania. Place of interview: United Water Pennsylvania, Harrisburg Office, Harrisburg, Pennsylvania.

Timothy K. McGarvey, Production Superintendent, United Water Pennsylvania. Place of interview: United Water Pennsylvania, Sixth Street Filter Plant, Harrisburg, Pennsylvania.

Diane Price, Borough Manager, Borough of Dauphin, Dauphin County, Pennsylvania. Place of interview: Borough of Dauphin, Pennsylvania.

Alfred C. Rimmer, Construction Director, The Harrisburg Authority, Harrisburg, Pennsylvania. Place of interview: Harrisburg Authority office, Harrisburg, Pennsylvania.

Thomas G. White, Engineering Aide, United Water Pennsylvania. Place of interview: United Water Pennsylvania, Harrisburg Office, Harrisburg, Pennsylvania.

Barbara (Singer) Whiteside, long-time resident of Borough of Dauphin, Dauphin County, Pennsylvania. Place of interview: Borough of Dauphin, Pennsylvania.

## Bibliography

### Works Consulted

- Baylis, John R. "Filtration Plants Section Dealing with Their Design, Construction and Operation: Water Purification Problems Discussed at the St. Louis Convention of the American Water Works Association". *Water Works and Sewerage, Volume LXXVII, No. 7 (July 1930)*.
- Borough of Dauphin, Pennsylvania. *Borough Council Minutes 1894-1956*. On file, Borough Manager's Office, Borough of Dauphin.
- Dauphin County Tax Assessment Records. Dauphin County Courthouse, Harrisburg, Pennsylvania.
- Dauphin County Deed Books. Dauphin County Courthouse, Harrisburg, Pennsylvania.
- Dauphin-Middle Paxton Community Ambulance Association. *Our Heritage: 1787-1976*. Pensbrook, PA: Triangle Press, 1976.
- Gaw, Cary, and Frank Hildebrand. *Engineering Evaluation Report and Projection Project Study for Dauphin Consolidated Water Supply Company*. Section III: History. On file, United Water Pennsylvania. December 1985.
- Keller, Amy B. *Criteria of Effects Report U.S. 22/322, Section 002 Dauphin Borough and Middle Paxton Township, Dauphin County, Pennsylvania*. Prepared by Cultural Heritage Research Services for McCormick, Taylor & Associates, Inc. On file, McCormick, Taylor & Associates, Inc., Philadelphia, November 1994.
- Pennsylvania Department of Transportation. *River Route U.S. 22/322 Dauphin to Speecheville Final Environmental Impact Statement*. Prepared for the Federal Highway Administration. Two volumes on file, McCormick, Taylor & Associates, Inc., Philadelphia, PA. July 1989.
- Pennsylvania Railroad Company. *Water Company Minute Books, Volume #1 1903-1919 and Volume #2 1920-1942, Microfilm Reel MB10*. On file, Pennsylvania State Archives, Harrisburg, PA.

Pennsylvania Railroad Company. Letter from Joseph T. Richards to Mr. W. W. Atterbury. December 23, 1907. On file, Atterbury Family Papers, Hagley Museum and Library, Wilmington, DE.

Pennsylvania Railroad Company. *Pennsylvania Railroad Water Companies Annual Report of Operations*. 1914. On file, Pennsylvania State Archives, Harrisburg, PA.

Tabachnick, Alan D. *Historic Structures Survey River Route U.S. 22/322, Section 002 Dauphin Borough and Middle Paxton Township, Dauphin County, Pennsylvania*. Prepared by Cultural Heritage Research Services for McCormick, Taylor & Associates, Inc. On file, McCormick, Taylor & Associates, Inc., Philadelphia, PA. July 1989.

#### Repositories Consulted

Historical Society of Dauphin County, Harrisburg, PA

Dauphin County Courthouse, Harrisburg, PA

The Harrisburg Authority, Harrisburg, PA

Water Supply Bureau, Harrisburg, PA

Pennsylvania Historical and Museum Commission, State Archives, Harrisburg, PA

Hagley Museum and Library, Wilmington, DE

Map Collection, Morris Library, University of Delaware, Newark, DE

Map Collection, Free Library of Philadelphia, Logan Square, Philadelphia, PA



**Likely Sources Not Yet Investigated**

William Neidig, former employee at Dauphin Water Works

Bill Peters, caretaker at Dauphin Water Works

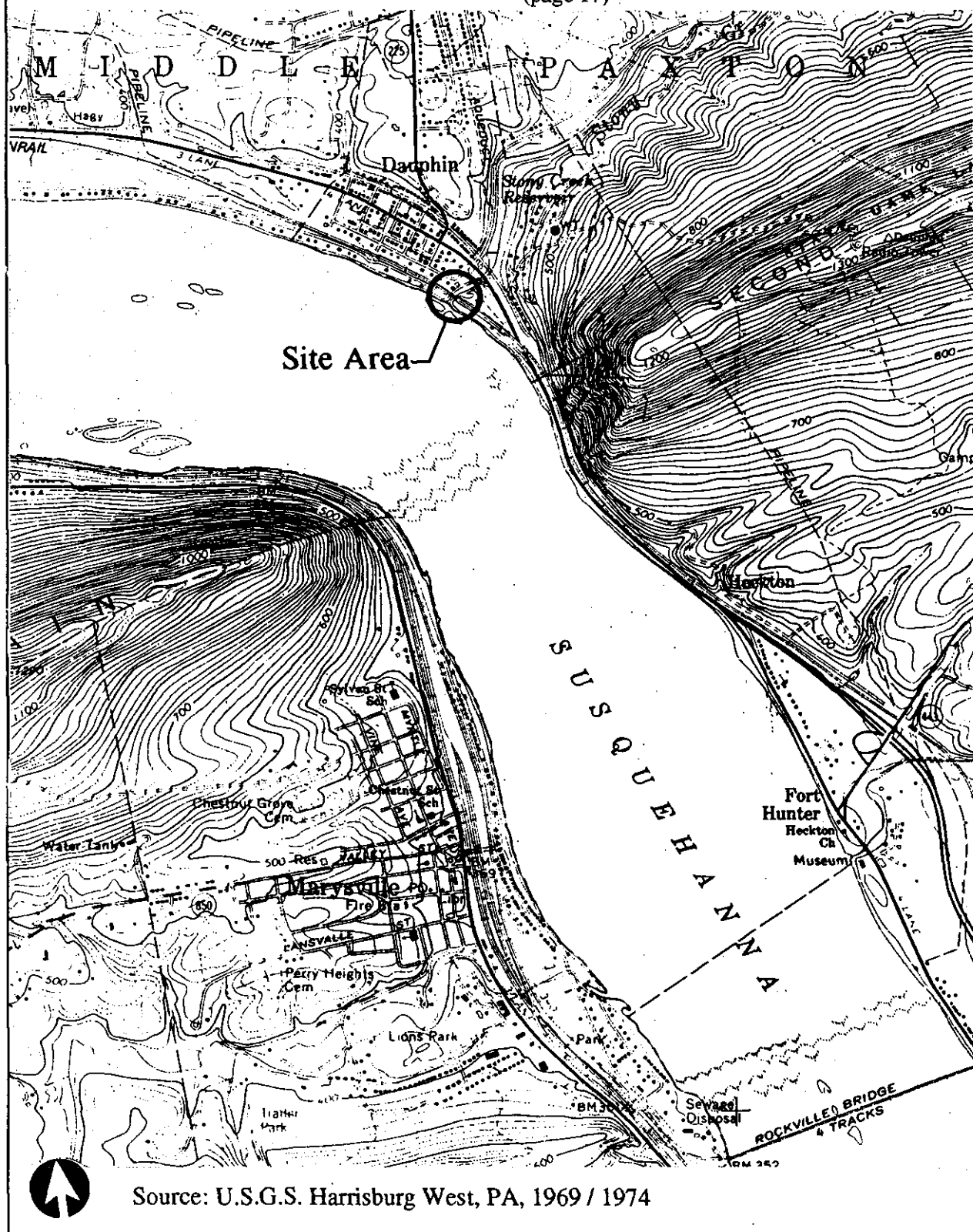
Joseph "Moon" Winn, employee at Dauphin Water Works

Pennsylvania Railroad Company Financial Department, Henry Tatnall Office Files, Vice President of Finance. Dauphin Consolidated Water Supply Company, 1909-1923. On file, Manuscript Box 163, Hagley Museum and Library, Wilmington, Delaware.

Pennsylvania Railroad Company Office of the Comptroller. *Water Company Ledger No. 2 1914-1916*. (Volume 1 lost). On file, Pennsylvania State Archives, Harrisburg.

## Regional Location Map

Dauphin Water Works  
(Dauphin Consolidated Water Supply Company)  
HAER No. PA-414  
(page 17)



Source: U.S.G.S. Harrisburg West, PA, 1969 / 1974

# General Site Plan

Dauphin Water Works  
(Dauphin Consolidated Water Supply Company)  
HAER No. PA-414  
(page 18)

